

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A disc controller comprising:

a network controlling unit ~~configured~~ to receive a data input/output request sent from an external device through a network; and

a disc controlling unit formed in a same circuit board in which the network controlling unit is formed, the disc controlling unit coupled to the network controlling unit by an internal bus provided in the circuit board,

wherein the disc controlling unit ~~is configured to receive~~ receives a command sent from the network controlling unit through the internal bus and execute a data input/output for a disc drive in response to the command;

wherein the network controlling unit ~~is configured to send~~ sends the command, for which a plurality of addresses are set, to the disc controlling unit;

wherein the disc controlling unit ~~is configured to receive~~ receives the command and execute data input/output corresponding to each of the addresses set in the command for the disc drive; and

wherein when a file to be processed based on the data input/output request is to be divided and stored in a plurality of storage areas of a disc drive, the network controlling unit is ~~configured to generate~~ generates the command in which a combination of a number of blocks and a plurality of logical addresses for designating respective divided storage areas are set, and

~~wherein when the file to be processed based on the data input/output request is to be stored in a continuous storage area of a disc drive, the network controlling unit generates the command in which a combination of a number of blocks and one logical address for a designating respective storage area are set.~~

2. (Original) A disc controller according to claim 1, wherein
a file system operates in the network controlling unit,
the data input/output request designates data, which is input/output to/from the
disc drive, based on a file name, and
the network controlling unit generates an address corresponding to a storage
location of data on the disc drive, which corresponds to the file name set for the data input/output
request, and sets the address in the command.
3. (Original) A disc controller according to claim 1,
wherein the address is a logical address for designating a storage location of data
in a logical area organized in a disc space of the disc drive.
4. (Original) A disc controller according to claim 1,
wherein the internal bus is a PCI bus.
5. (Original) A disc controller according to claim 1,
wherein the network controlling unit includes a communicating section
communicating with the external device in accordance with a network protocol.
6. (Previously Presented) A disc controller according to claim 1, wherein
a memory accessible in a sharing manner by both the network controlling unit and
the disc controlling unit is formed in the circuit board;
the network controlling unit and the disc controlling unit update, at a
predetermined timing, operation state information indicating each of a plurality of operation
states of the network controlling unit and the disc controlling unit, which is stored in the
memory; and
an occurrence of faults in the network controlling unit and disc controlling unit is
detected based on the operation state information.
7. (Original) A disc controller according to claim 6, wherein the network
controlling unit acquires, from the operation state information, an operation state of the disc

controlling unit which is a sending destination of the command when the network controlling unit sends the command to the disc controlling unit, and determines, depending on the acquired operation state, whether the command should be sent to the disc controlling unit.

8. (Original) A disc controller according to claim 6, wherein the network controlling unit investigates the operation state of the disc controlling unit which is a sending destination of the command based on the operation state information when the network controlling unit can not acquire a receipt notification concerning the command sent to the disc controlling unit, and determines, depending on a investigation result thereof, whether the command should be sent to the disc controlling unit again.

9. (Original) A disc controlling unit according to claim 6, wherein the network controlling unit investigates the operation state of the disc controlling unit which is a sending destination of the command based on the operation state information when the network controlling unit can not acquire a receipt notification concerning the command sent to the disc controlling unit, and when the network controlling unit judges that the disc controlling unit is not normally operating, the network controlling unit sends the command to at least one of other disc controlling units.

10. (Original) A disc controller according to claim 6, further comprising: a user interface for notifying the occurrence of the faults when the occurrence of the faults is detected.

11. (Original) A disc controller according to claim 6, wherein when the occurrence of the faults is detected, a signal for requesting a restart is sent to one of the network controlling unit and the disc controlling unit where the faults have occurred.

12. (Previously presented) A disc controller according to claim 1, wherein: the disc controlling unit includes an interface for connecting a backup device thereto;

the network controlling unit includes a section for receiving a backup request concerning the data stored in the disc drive from the external device, and for sending a backup command to the disc controlling unit; and

the disc controlling unit includes a section for sending a backup instruction concerning the data stored in the disc drive to the backup device upon receipt of the backup command.

13. (Currently amended) A disc controller comprising:

a network controlling unit configured to receive a data input/output request sent through a network; and

a disc controlling unit formed in a same circuit board in which the network controlling unit is formed, the disc controlling unit being coupled to the network controlling unit by an internal bus provided in the circuit board, the disc controlling unit configured to receive receiving a command sent from the network controlling unit through the internal bus, and input/output data to/from a disc drive in response to the command,

wherein a plurality of circuit boards, connected so as to be capable of communicating communicate with each other, are provided;

wherein an occurrence of a fault of one of the circuit boards is capable of being detected by one of the other circuit boards by exchanging a heartbeat message among the circuit boards;

wherein when the occurrence of the fault of one circuit board is detected by one of the other circuit boards, a circuit board other than the circuit board causing the faults substitutes for a processing of the circuit board causing the faults; and

wherein when a file to be processed based on the data input/output request is to be divided and stored in a plurality of storage areas of a disc drive, the network controlling unit is configured to generate generates the command in which a combination of a number of blocks and a plurality of logical addresses for designating respective divided storage areas are set, and

wherein when the file to be processed based on the data input/output request is to be stored in a continuous storage area of a disc drive, the network controlling unit generates the

command in which a combination of a number of blocks and one logical address for a designating respective storage area are set.

14. (Currently amended) A controlling method of a disc controller having a network controlling unit ~~configured~~ to receive a data input/output request sent from an external device through a network, and a disc controlling unit formed in a same circuit board in which the network controlling unit is formed, the disc controlling unit being connected to the network controlling unit by an internal bus provided in the circuit board, receiving a command sent from the network controlling unit through the internal bus, and inputting/outputting data to/from a disc drive in response to the command, the method comprising:

by means of the network controlling unit, sending one command, for which a plurality of addresses are set, to the disc controlling unit; and

by means of the disc controlling unit, receiving the command and executing data input/output corresponding to each of the addresses set in this command for the disc drive,

wherein when a file to be processed based on the data input/output request is to be divided and stored in a plurality of storage areas of a disc drive, the network controlling unit is ~~configured to generate~~ generates the command in which a combination of a number of blocks and a plurality of logical addresses for designating respective divided storage areas are set, and

wherein when the file to be processed based on the data input/output request is to be stored in a continuous storage area of a disc drive, the network controlling unit generates the command in which a combination of a number of blocks and one logical address for a designating respective storage area are set.

15. (Previously Presented) A method according to claim 14, wherein the disc controlling unit includes a memory accessible in a sharing manner by both the network controlling unit and the disc controlling unit; the method further comprising:

updating by the network controlling unit and the disc controlling unit, at a predetermined timing, operation state information indicating each of a plurality of operation states of the network controlling unit and the disc controlling unit, which is stored in the memory; and

detecting an occurrence of faults in the network controlling unit and disc controlling unit based on the operation state information.

16. (Previously Presented) A method according to claim 14, wherein the disc controlling unit includes an interface for connecting the external device thereto; the method further comprising:

receiving by the network controlling unit a backup request concerning data stored in the disc drive from the external device, and sending a backup command to the disc controlling unit; and

sending by the disc controlling unit the backup command concerning the data of the disc drive to the backup device upon receipt of the backup command.

17. (Currently amended) A method according to claim 14, wherein the disc controlling unit includes a plurality of circuit boards connected so as to be capable of communicating communicate with each other, the method further comprising:

detecting an occurrence of faults of one circuit board by one of the other circuit boards by exchanging a heartbeat message among the circuit boards; and

when one circuit board detects the faults, one of the other circuit boards different from the circuit board causing the faults substituting for processing of the circuit board with the faults.

18. (Previously Presented) A disc controller according to claim 13, further comprising:

a user interface for notifying the occurrence of the faults when the occurrence of the faults is detected.

19. (Previously Presented) A disc controller according to claim 13, wherein when the occurrence of the faults is detected, a signal for requesting a restart is sent to one of the network controlling unit and the disc controlling unit where the faults have occurred.

20. (Previously Presented) A disc controller according to claim 13, wherein the disc controlling unit includes an interface for connecting a backup device thereto;

the network controlling unit includes a section for receiving a backup request concerning the data stored in the disc drive from the external device, and for sending a backup command to the disc controlling unit; and

the disc controlling unit includes a section for sending a backup instruction concerning the data stored in the disc drive to the backup device upon receipt of the backup command.